CopperLink™ 1214E Series
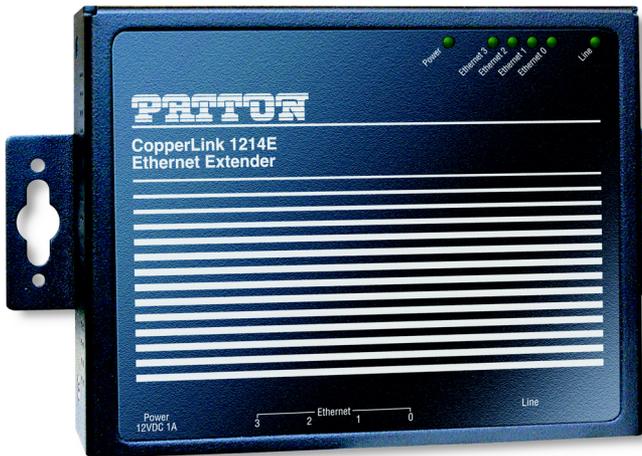# Extended Temperature Ethernet Extender

Quick Start Guide

C E

Important—This is a Class A device and is intended for use in a light industrial environment. It is not intended nor approved for use in an industrial or residential environment.

REGULATORY MODEL NUMBER: 03340D4-001

WARNING

- **Do not open the device when the power cord is connected. For systems without a power switch and without an external power adapter, line voltages are present within the device when the power cord is connected.**
- **For devices with an external power adapter, the power adapter shall be a listed *Limited Power Source* The mains outlet that is utilized to power the device shall be within 10 feet (3 meters) of the device, shall be easily accessible, and protected by a circuit breaker in compliance with local regulatory requirements.**
- **For AC powered devices, ensure that the power cable used meets all applicable standards for the country in which it is to be installed.**
- **For AC powered devices which have 3 conductor power plugs (L1, L2 & GND or Hot, Neutral & Safety/Protective Ground), the wall outlet (or socket) must have an earth ground.**
- **For DC powered devices, ensure that the interconnecting cables are rated for proper voltage, current, anticipated temperature, flammability, and mechanical serviceability.**
- **WAN, LAN & PSTN ports (connections) may have hazardous voltages present regardless of whether the device is powered ON or OFF. PSTN relates to interfaces such as telephone lines, FXS, FXO, DSL, xDSL, T1, E1, ISDN, Voice, etc. These are known as "hazardous network voltages" and to avoid electric shock use caution when working near these ports. When disconnecting cables for these ports, detach the far end connection first.**
- **Do not work on the device or connect or disconnect cables during periods of lightning activity.**

WARNING

This device is NOT intended nor approved for connection to the PSTN. It is intended only for connection to customer premise equipment.

In accordance with the requirements of council directive 2002/96/EC on Waste of Electrical and Electronic Equipment (WEEE), ensure that at end-of-life you separate this product from other waste and scrap and deliver to the WEEE collection system in your country for recycling.
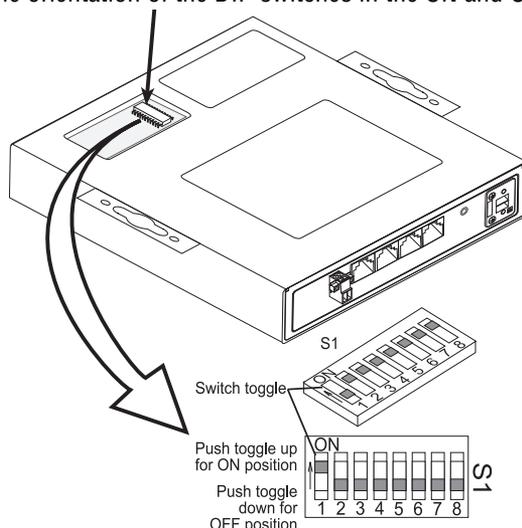
1.0 Configure the DIP Switches

The CL1214E has eight DIP switches (S1) for configuring the unit for a wide variety of applications. Once the Cl1214E's are properly installed, they should operate transparently. No user settings required.

> **Note** Before applying power to the CL1214E, please review section 2.0, "Power up the CL1214E Series" on page 5 to verify that the unit is connected to the appropriate power source.

1.1 Configuring the Hardware DIP Switches

The DIP switches are externally accessible from the underside of the CL1214E. **Figure 1** shows the orientation of the DIP switches in the ON and OFF positions.

Figure 1. DIP switch orientation

Configuring DIP Switch S1

DIP Switch S1 is where you configure the CopperLink line. The following tables describe the configuration for the CL1214E.

Table 1. S1 Summary

Position	Description
S1-2	Line Rate/Symmetry
S1-3	Line Rate/Symmetry
S1-4	Reserved
S1-5	SNR Margin
S1-6	Reserved

Table 1. S1 Summary

Position	Description
S1-7	Reserved
S1-8	Reserved

Switch S1-1: Local/Remote Configuration

Use Switch S1-1 to configure the unit as Remote or Local in the CL1214E.

Table 2. Local/Remote Unit Configuration

S1-1	Setting
ON	CPE/Remote
OFF	CO/Local

Switches S1-2 and S1-3: Symmetric/Asymmetric Operation

Use Switches S1-2 and S1-3 to configure the CopperLink line rate type and operation.

Table 3. Symmetric/Asymmetric Selection Chart

S1-2	S1-3	Setting
OFF	OFF	High-Speed "Symmetric"
OFF	ON	High-Speed "Asymmetric"
ON	OFF	FastPath High-Speed "Asymmetric"
ON	ON	Long-Range "Asymmetric"

Switch S1-5: General Protection (Signal to Noise Ratio)

Use Switch S1-5 to configure line noise protection.

Table 4. Signal to Noise Ratio

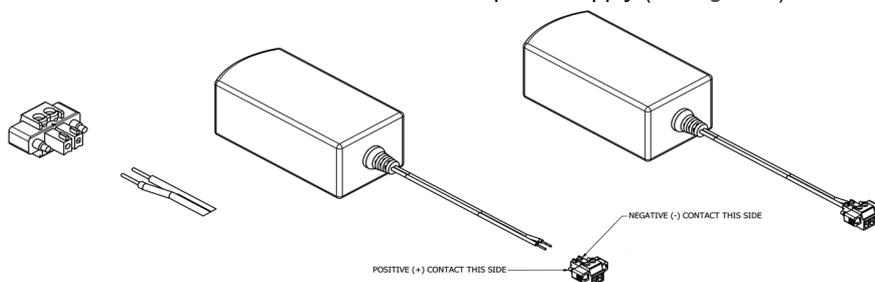| S1-5	Setting
ON	6dB
OFF	9dB

- 6dB: Original line noise protection with 6dB SNR
- 9dB: Better line noise protection with SNR up to 9dB

2.0 Power up the CL1214E Series

The CL1214E Series comes with an external AC power supply (see **figure 2**).

NEGATIVE (-) CONTACT THIS SIDE

POSITIVE (+) CONTACT THIS SIDE

Figure 2. Power Supply Installation

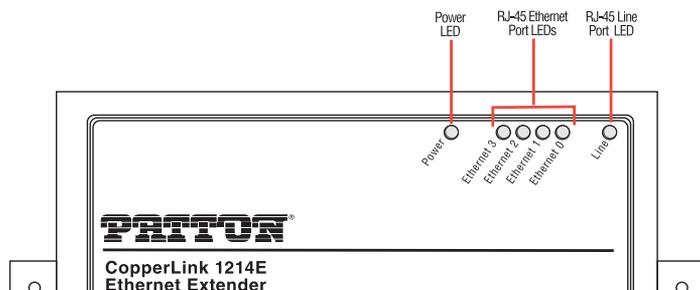## 2.1 Models with external AC adapter

1. To connect the AC power supply, determine the positive lead and negative lead on the power adapter.
2. Insert the positive lead into the opening on the terminal block labeled *+* and the negative lead into the opening on the terminal block labeled *-*.
3. Tighten the screws on the block to secure the wires.

The CL1214E Series powers up as soon as it is connected to an AC power source—there is no power switch.

2.2 Power up indication

Verify that the *Power* LED on the front panel (see **figure 3**) illuminates and remains lit.

Power
LED

RJ-45 Ethernet
Port LEDs

RJ-45 Line
Port LED

Power Ethernet 3 Ethernet 2 Ethernet 1 Ethernet 0 Line

PATTON

**CopperLink 1214E
Ethernet Extender**

Figure 3. CL1214E front panel

3.0 Connect the CopperLink interface

1. Obtain single-twisted-pair cable with an RJ-45 plug connector at each end.

2. Plug one end of the cable into the RJ-45 socket (labeled *Line)* on the CL1214E. Verify that the other end of the cable is connected to the *Line* port on the other CL1214E and that the port is correctly configured.

3. When a link is established, the *Line Link* LED will turn on.

4.0 Connect the Ethernet port(s)

The RJ-45 ports labeled *Eth 0 through Eth 3* are the Auto-MDIX 10/100Base-T interface. These ports are designed to connect directly to a 10/100Base-T device or network. You may connect this port to a hub or PC using a straight through or crossover cable that is up to 328 ft (100 m) long.

5.0 Additional information

For detailed information about installing, configuring, and operating the CopperLink, refer to the *CopperLink 1214E Series User Manual* at **www.patton.com/manuals/ CL1214E-UM.pdf**.

A.0 Compliance Information

A.1 Compliance

EMC:
• EN55022, Class A
• EN55024

Safety:
• IEC/EN60950-1, 2nd edition

PSTN:
• This device is not intended nor approved for connection to the PSTN

1.2 Radio and TV Interference (FCC Part 15)

This equipment generates and uses radio frequency energy, and if not installed and used properly—that is, in strict accordance with the manufacturer's instructions—may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection from such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If the equipment causes interference to radio or television reception, which can be determined by disconnecting the cables, try to correct the interference by one or more of the following measures: moving the computing equipment away from the receiver, re-ori-

enting the receiving antenna, and/or plugging the receiving equipment into a different AC outlet (such that the computing equipment and receiver are on different branches).

A.3 CE Declaration of Conformity

(See section **A.4 "EG-Konformitätserklärung"** for German version.)

Product Description: CopperLink 1214E Series

This equipment conforms to the requirements of Council Directive 1999/5/EC on the approximation of the laws of the member states relating to Radio and Telecommunication Terminal Equipment and the mutual recognition of their conformity and the Directive 2011/65/EC relating to RoHS compliance.

$C\epsilon$ The safety advice in the documentation accompanying the products shall be obeyed. The conformity to the above directive is indicated by the CE sign on the device.

The signed Declaration of Conformity can be downloaded from **www.patton.com/certifications/.**

A.4 EG-Konformitätserklärung

(see section **A.3 "CE Declaration of Conformity"** for English version)

Produktbezeichnung: CopperLink 1214E Series

Die bezeichneten Produkte stimmen in der von uns in Verkehr gebrachten Ausführung mit den Vorschriften folgender Richtlinie überein:

R&TTE 1999/5/EG

Richtlinie des europäischen Parlaments und des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Funkanlagen und Telekommunikations-Endeinrichtungen und die gegenseitige Anerkennung ihrer Konformität.

$C\epsilon$ Die Sicherheitshinweise in der mitgelieferten Produktdokumentation sind zu beachten. Die Konformität mit der oben erwähnten Richtlinie wird durch das CE-Zeichen auf dem Gerät bestätigt.

Die unterzeichnete Konformitätserklärung kann heruntergeladen werden von: **www.patton.com/certifications/.**

A.5 Authorized European Representative

D R M Green

European Compliance Services Ltd

Greyfriars Court

Paradise Square

Oxford, OX1 1BE, UK

Copyright statement

Copyright © 2013, Patton Electronics Company. All rights reserved.

The information in this document is subject to change without notice. Patton Electronics assumes no liability for errors that may appear in this document.

Trademarks statement

The term *CopperLink* is a trademark of Patton Electronics Company. All other trademarks presented in this document are the property of their respective owners.

Patton support headquarters in the USA

- Online support: Available at **www.patton.com**
- E-mail support: E-mail sent to **support@patton.com** will be answered within 1 business day
- Telephone support: Standard telephone support is available five days a week—from **8:00 am** to **5:00 pm EST** (**1300** to **2200 UTC/GMT**)—by calling **+1 (301) 975-1007**
- Support via VoIP: Contact Patton free of charge by using a VoIP ISP phone to call **sip:support@patton.com**
- Fax: **+1 (301) 869-9293**

Alternate Patton support for Europe, Middle East, and Africa (EMEA)

- Telephone support: Standard telephone support is available five days a week—from **8:00 am** to **5:00 pm CET** (**0900** to **1800 UTC/GMT**)—by calling **+41 (0)31 985 25 55**
- Fax: **+41 (0)31 985 25 26**

> **Note** For additional service and support information, refer to the "Contacting Patton for assistance" chapter of the *CopperLink 1214E Series User Manual* available online at **www.patton.com/manuals/CL1214E-UM.pdf**.

Warranty, Trademark, & Compliance Information

For warranty, trademark and compliance information, refer to the *CopperLink 1214E Series User Manual* available online at **www.patton.com/manuals/CL1214E-UM.pdf**.